Creep of tungsten carbide-cobalt cermets S/180/62/000/005/009/011
E071/E535

grain size of the cermet is reduced is attributed to acceleration of the migration of dislocations in consequence of greater diffusion speeds of vacancies along the grain boundaries in comparison with the volume self-diffusion. A special study is made of the dependence of deformation on the test duration in the transient creep phase and the results are shown graphically for tests carried out at 1073°C. A brief review is made of the expressions for this dependence postulated by various authors. The experimental data obtained for VK6 specimens with a WC grain size of 1.6 μ are in good agreement with the equation of Andrade:

$$\varepsilon = \beta\tau^{1/3} + C \qquad (1)$$

where β - constant. The results confirm that for WC-Co (essentially for the cobalt interstices) the following equation is valid at low stresses

$$\dot{\varepsilon} \sim \sigma^{n} \qquad (5)$$

whereby n = 2.7, which is sufficiently close to the values obtained by J. J. Weertman(Theory of Steady-state Creep Based on Dislocation Climb ,App.Phys. 1955, 26, No.10, p.1213). The

Card 2/3

prediction of Mott that the coefficient β in Eq.(1) should change in the transient creep stage with changing stress and temperature, in the same way as the rate of the steady-state creep, was verified on αC-Co. With increasing stress β increases considerably slower than the steady-state creep rate $\dot{\varepsilon}$. There are 3 figures.

SUBMITTED: April 18, 1962

X

37703

S/126/62/013/004/017/022
E021/E435

15.2400
15.2610

AUTHORS: Kreymer, G.S., Alekseyeva, N.A.

TITLE: The mechanism of fracture in tungsten carbide-cobalt cermets

PERIODICAL: Fizika metallov i metallovedeniye, v.13, no.4, 1962, 609-614

TEXT: A theory of fracture for tungsten carbide-cobalt alloys is proposed which explains the relationship between strength (compression or bending) and cobalt content. With increasing cobalt content, the strength increases first to a maximum, then decreases. Theories for the reasons for the ascending and descending portions of the curve are put forward. On the ascending part of the curve, the strength is determined by the plastic deformation of the cobalt accompanied by propagation of cracks. It is proposed that cracks of critical length are already in the material and these propagate when the critical stress is reached. The critical stress and therefore the strength are proportional to the square root of the product Ep where E is the modulus of elasticity and p is the work of the plastic

Card 1/3

The mechanism of fracture ...

deformation during propagation of the cracks. When the thickness of the cobalt layer between the carbide grains is less than a few microns, plastic deformation will occur across the total thickness. Since the thickness of the layer (at a given grain size) is proportional to the cobalt content, the work of plastic deformation is proportional to the cobalt content. Thus a relationship between the cobalt content and the limiting stress, and therefore the strength, is obtained; published experimental curves of cobalt content versus bending strength confirm this relationship. On the ascending part of the Co-content-strength curve the strength is determined by the plastic deformation which accompanies crack propagation; on the descending branch the strength is determined by the plastic deformation which precedes the formation and propagation of cracks. With increasing cobalt content and thickness of the cobalt layer, the resistance to plastic deformation of the alloy decreases as a result of a decrease in the retarding influence of the hard carbide grains. As a first approximation, the resistance to plastic deformation is an exponential function of the thickness of the cobalt phase in

between the carbide grains. At a given grain size, the thickness is proportional to the cube root of the cobalt content. Thus a relationship between the strength and the cobalt content can be obtained. The few available experimental values of compression strength against cobalt content confirm qualitatively this mechanism. There are 5 figures.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov (All-Union Scientific Research Institute for Hard Alloys)

SUBMITTED: June 5, 1961

Card 3/3

KREYMER, G.S. (Moskva); ALEKSEYEVA, N.A. (Moskva); BARANOV, A.I. (Moskva) [deceased]

Creep of tungsten carbide-cobalt ceramic metal hard alloys. Izv. AN SSSR.Otd.tekh.nauk. Met. i topl. no.5:163-166 S-O '62. (MIRA 15:10)
(Creep of metals) (Ceramic metals)

39763
S/126/62/013/006/010/018
E111/E352

15.2400

AUTHORS: Kreymer, G.S., Vakhovskaya, M.R., Tumanov, V.I. and Pavlova, Z.I.

TITLE: Main mechanical properties and structure of cermets

PERIODICAL: Fizika metallov i metallovedeniye, v. 13, no. 6, 1962, 901 - 911

TEXT: Experiments relating chief mechanical properties to composition, test temperature and carbide-grain size of three-phase TiC-WC-Co alloys. These consist of the following phases: TiC-WC solid solution, structurally free WC + Co with traces of dissolved Ti, W and C. The effect of Co was studied over 4-25 wt.% range with a constant TiC/WC ratio of 15/79, giving an average grain size of 3 μ for the TiC-WC phase and 1.8 μ for the WC phase; that of TiC was over 6-25 wt.% range with 9 wt.% Co, giving an average grain size of 3.7 μ and 2.5 μ for the TiC-WC and WC, respectively. The effec ot carbide-grain size on the mechanical properties was studied on alloys type T15K6 and T6K9 with fine, medium and coarse carbide grains in various combinations. In TiC-WC-Co the breakdown of cobalt

Card 1/2

Main mechanical properties ....

becomes so significant at temperatures over 500 °C that the increase in its content had little effect. The tensile strength of these alloys became independent of temperature (up to 500 °C) at TiC concentrations of 10 wt.% and over. The fracture mechanisms in WC-Co alloys were different from those in TiC-WC-Co. This difference affected both tensile and impact strengths. The latter was independent of temperature for the alloys BK10 (VK10), T50K9 and T15K6; for the first, this applied only to the 20-400 °C range, above which there was a steep linear growth; for TiC-WC-Co alloys with a virtually continuous carbide skeleton the range was 20 - 1 000 °C. The hardness of three-phase TiC-WC-Co alloys decreased approximately linearly with increasing Co content. The TiC-WC phase showed greatest softening with increasing temperature. There are 10 figures and 2 tables.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov (All-Union Scientific Research Institute for Hard Alloys)

SUBMITTED: April 17, 1961 (initially)
January 6, 1962 (after revision)

Card 2/2

KRSYMON, G. S.

"Nature of the strength of hard alloys."

TITLE: The Sixth All-Union conference on Powder Metallurgy (Held at Moscow, 21 November 1962

SOURCE: Poroshkovaya metallurgiya, no. 3, 1963. p. 110

S/126/63/015/003/014/025
E193/E383

AUTHORS: Kreymer, G.S., Alekseyeva, N.A. and Vakhovskaya, M.R.

TITLE: On the problem of the mechanism of fracture of sintered hard alloys

PERIODICAL: Fizika metallov i metallovedeniye, v. 15, no. 3, 1963, 428 - 434

TEXT: In an earlier paper (present authors - FMM, v.13, no. 4, 1962, 609) a theory of the mechanism of fracture of cobalt-bonded carbides as a function of the cobalt content was presented. New evidence, obtained by both the authors and other workers, is used in the present paper to supplement this theory and to formulate some of its aspects in more precise terms. It was postulated earlier that the effect of the Co content c on the breaking stress σ of a Co-bonded carbide could be described by:

$$\sigma^2 = AEc + K \qquad (1)$$

where c is the Co content (vol.%), E the elastic modulus of Co and K a constant depending on the particle size of the WC particles and equal to zero when this particle size is less than

On the problem of ....

2 to 3 μ. It has been found since that this equation is valid for specimens characterized by the different size of the WC particles, that it applies not only at room temperature but also at 200, 400 and 600 °C, and that it holds not only for Co-WC but also for TiC-WC-Co alloys. These data are correlated with the known Griffith-Orowan formula and it is shown that for alloys prepared under the same conditions and tested at 20 to 400 °C the value of A in Eq. (1) is independent of temperature and the WC particle size. The fact that A is independent of the WC particle size and, consequently, of the thickness of the Co layers separating the WC grains, means that the variation in thickness of these layers does not affect the work of plastic deformation per unit volume of Co up to the maximum on the $\sigma(c)$ curve, i.e. up to the moment at which the stress in the alloy reaches the level of the yield point. This means that the thickness of the Co layers separating the WC grains cannot affect the breaking stress of WC-Co alloys. In the next paragraph the authors show that $K^{1/2}$ is approximately equal to the bending strength of pure WC. When, in the case of small WC particle size, K = 0, and the $\sigma(c)$ curve passes through the origin of the

On the problem of ....

system of coordinates, this means that the plane of fracture does not intersect any WC grains. Having established that the breaking stress of Co-bonded carbides in the initial (ascending) branch of the $\sigma(c)$ curve is determined only by the stress required to propagate cracks, the authors restate the proposition that this is possible only if (1) the crack nuclei of required size are already present in the material or (2) the cracks are initiated on the application of a load, in which case the stress required for their formation and growing to the critical size is considerably lower than that required for their propagation. Both these possibilities and theirimplications are discussed, after which experimental evidence is quoted to support the view that on the Co content reaching the value corresponding to the maximum strength of Co-bonded carbides, the stress in the Co layers separating the WC particles reaches the yield point of Co. It is shown also that the yield point of the cemented carbides (in the range corresponding to the right, i.e. descending branch of the $\sigma(c)$ curve) varies in the same manner as the breaking stress. This is demonstrated in Fig. 2, where curve 1, due to Engle (Powder Metallurgy, Edited by Wulff, ASM, 1942, p. 436), shows the effect of the Co content on the

On the problem of .....

compressive strength ($\sigma_{c\%}$, kg/mm^2) of WC-Co alloys and curve 2, due to Dawihl (and Orowan - Symposium on internal stresses in metals and alloys, Inst. Metals, London, 1948; Dislocation in metals, Amer. Inst. Mining Met. Petrol Eng., 1954), shows the effect of the Co content on the 0.01% proof stress ($\sigma_{0.01}$, kg/mm^2) of the material. In conclusion, it is shown that the right branch of the $\sigma(c)$ curve is satisfactorily described by an equation due to Unkel:

$$\sigma = Ae^{-Bv^{1/3}} \qquad (6)$$

where σ is the breaking stress, c the Co content (vol.%), $v^{1/3}$ a term proportional to the distance between the carbide particles, A, B are constants and by a more simple formula due to Orowan:

$$\sigma = A/\log(v^{1/3}) \qquad (7) .$$

There are 3 figures and 1 table.

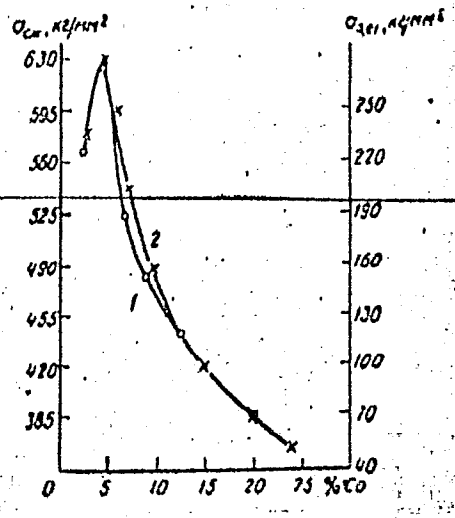
On the problem of ....

S/126/63/015/003/014/025
E193/E383

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov (All-Union Scientific Research Institute of Hard Alloys)

SUBMITTED: July 23, 1962

Fig. 2:



Card 5/5

ACCESSION NR: AP4034055 S/0126/64/017/004/0572/0577

AUTHORS: Kreymer, G. S.; Tumanov, V. I.; Kamenskaya, D. S.; Pavlova, Z. I.

TITLE: On the resistance limit and the mechanism of failure of the metal ceramic solid alloy of WC and Co at compression

SOURCE: Fizika metallov i metallovedeniye, v. 17, no. 4, 1964, 572-577

TOPIC TAGS: resistance limit, yield stress, stress analysis, cobalt, carbide phase, dislocation effect, tungsten carbide

ABSTRACT: The purpose of this work was to obtain systematic experimental data on the effects of composition and carbide grain size on the resistance limit of the alloy WC-Co during compression. Five sets of alloys were prepared with varying sizes of carbide grains (1.4, 1.7, 1.9, 3.3, and 5.3 μ). In each set specimens were prepared containing varying percentages of cobalt. The different grain sizes were obtained by changing the initial temperature at which the powder was formed. The results showed that (with increasing cobalt content) the resistance limit increased initially and then decreased monotonically; all the curves reached a maximum. The highest value of the resistance limit (500 kg/mm^2) for a grain size of 1.4-1.7 μ was attained for 5% by wt (8.6% by vol) of cobalt in the alloy.

Card 1/3

ACCESSION NR: AP4034055

The resistance limit is given by the theoretical expression

$$\sigma(S_T) = \frac{A}{v^{1/3}} + B;$$

$$\sigma(S_T) = \frac{C}{v^{1/3}} + D,$$

where σ is the resistance limit, S_T the yield limit, v the volumetric content of Co, and A,B,C,D are constants. The theoretical dependence of the resistance limit on the grain size is given by

$$\sigma_c \cong \frac{a}{d} + B';$$

$$\sigma_c \cong \frac{b}{d^{1/2}} + D',$$

where d is the grain size and a,b,B'D' are constants. The form of the experimental curves agrees with these expressions. Finally, it was shown that these dependences were adequately described by the dislocation theory of E. Orowan (Symposium on Internal Stresses in Metals and Alloys, Inst. Metals, London, 1948) and of F. V. Lenel and G. S. Ansell (Powder Metallurgy. Proc. intern. Conference held in N.J., June 13-17, 1960, p.267). Orig. art. has: 7 formulas, 3 figures, and 1 table.

ASSOCIATION: Vsesoyuznyy institut tverdykh splavov (All Union Institute for Solid Alloys)

Card 2/3

ACCESSION NR: AP4034055

SUBMITTED: 15May63 ENCL: 00

SUB CODE: MM NO REF SOV: 006 OTHER: 009

Card 3/3

L 23369-65 EWT(m)/EPF(n)-2/EWA(d)/EWP(t)/EWP(k)/EWP(b) Pf-4/Pu-4 MJW/JD/JG
ACCESSION NR: AR5000740 S/0277/64/000/009/0020/0020

SOURCE: Ref. zh. Mashinostroitel'ny*ye materialy*, konstruktsii i raschet detaley mashin. Gidroprivod. Otd. vy*p., Abs. 9.48.122

AUTHOR: Kreymer, G. S.; Smirnov, F. F.; Kamenskaya, D. S.; Eykhmans, E. F.

TITLE: Alloy T5K12V without tantalum for especially heavy types of steel machining work

CITED SOURCE: Sb. tr. Vses. n.-i. in-t tverdy*kh splavov, no. 5, 1964, 29-35

TOPIC TAGS: tungsten carbide, carbide tool, cutting tool, tantalum containing alloy, alloy T5K12V, alloy TT7K12

TRANSLATION: Results are reported of a study of the cutting properties of hard alloys TT7K12 (tungsten carbide 81%, tantalum carbide 3%, titanium carbide 4%, and cobalt 12%) and T5K12V (tungsten carbide 83%, titanium carbide 5%, and cobalt 12%). Both alloys have identical physical and mechanical properties (sigma$_b$ bend= 170-180

Card 1/2

L 23369-65
ACCESSION NR: AR5000740

5

kg/mm^2, HRA 87-88). In laboratory tests, a determination was made of the dependence of change in stability on cutting speed for different cutting cross sections under industrial conditions - the alloys were tested in different machining operations and were compared with standard hard alloys (VK15, VK11, VK8V) and with fast cutting steels R18 and R24. The broad laboratory and industrial tests carried out showed that alloy T5K12V without tantalum can be used successfully to replace fast cutting steels in rough turning operations on welding seams, planing, and other kinds of machining, where the strength of the standard hard alloys is not sufficient to assure reliable operation. In these cases, alloy T5K12V is either not inferior in stability to alloy TT7K12 or is only slightly inferior. 5 figures, 2 tables.

SUB CODE: MM ENCL: 00

Card 2/2

L 20810-65 EWP(e)/EWT(m)/EPF(n)-2/EWA(d)/EPR/EWP(t)/EWP(b) Pa-4/Pu-4 IJP(c)/
BSD/ASD(m)-3/AS(mp)-2/AFTC(p) AT/WH/JD/JG
ACCESSION NR: AR4048241 S/0137/64/000/009/I039/I039

SOURCE: Ref. zh. Metallurgiya, Abs. 9I241

AUTHOR: Kreymer, G. S.; Alekseyeva, N. A.; Vakhovskaya, M. R.

TITLE: The mechanism of failure of metal ceramic hard alloys

CITED SOURCE: Sb. tr. Vses. n.-i. in-t tverdykh splavov, no. 5, 1964, 161-172

TOPIC TAGS: tungsten carbide, cobalt, tungsten alloy, titanium carbide, metal ceramic material, metal failure

TRANSLATION: The latest refinement of the theory of failure of metal ceramic hard alloys of tungsten carbide-cobalt as a function of Co content is described. There is examined the dependence of σ_b on Co content (for the rising branches of the curves) in the form: $\sigma_2^b = AEC + K$, where E is the modulus of elasticity, C is the Co content in vol. %, and K is a constant depending on tungsten carbide grain size. For grain size tungsten carbide $\leq$ 2-3 microns, K=0; in this case, the curve σ_2^b (EC) passes through the origin of the

Card 1/2

L 20810-65
ACCESSION NR: AR4048241

coordinates. Values of A and K are presented at different temperatures. For tungsten carbide-cobalt alloys prepared under identical conditions, the value of A does not depend on temperature (in the interval 20-400°) nor on the average grain size of the carbides. This indicates that a change in the thickness of the Co interlayer, although it affects resistance to plastic deformation, does not change the work of plastic deformation which depends on vol. % of Co. The magnitude of K is proportional to the average grain size of the carbides. Application of the equation to high temperature conditions (200, 400, 600°) is demonstrated, bearing witness to the absence of any significant effect of the thermal microstresses (connected with the marked difference in values of the thermal coefficient of phase expansion) on σ_b for the alloys. The conclusion is drawn that σ_b for hard tungsten carbide-cobalt and titanium carbide-tungsten carbide-cobalt alloys over the length of the rising branches of the curves (the dependence of σ_b on cobalt content) depends basically on the stress required for propagation of cracks. 20 literature titles.

SUB CODE: MM ENCL: 00

Card 2/2

L 32248-65 EWP(e)/EWT(m)/EPF(n)-2/EPR/EWP(t)/EWP(b) Pa-4/Pu-4/Pad IJP(c)
AT/WH/EJW/JD/Hd/JG

ACCESSION NR: AR5004789 S/0137/64/000/010/I080/I080

SOURCE: Ref. zh. Metallurgiya, Abs. 10I574

AUTHOR: Kreymer, G. S.; Safonova, O. S.

TITLE: Effect of heat treatment and cooling speed in the sintering process on the properties of tungsten carbide-cobalt alloys

CITED SOURCE: Sb. tr. Vses. n.-i. in-t tverdykh splavov, no. 5, 1964, 152-160

TOPIC TAGS: tungsten base alloy, cobalt containing alloy, tungsten carbide, sintering, wear resistance, metal mechanical property, metal physical property, grain size/ alloy VK4, alloy VK8, alloy VK8V

TRANSLATION: As a result of an investigation of sintered alloys VK4, VK8, and VK8V, it is shown that preheating of the alloys up to 1000° does not change the grain size of the tungsten carbide phase or the mechanical properties. In the alloys of tungsten carbide with 8% cobalt there are no regular changes in sigma bending, H_V, and a_K as a function of cooling speed during sintering; slow cooled alloys have

Card 1/2

L 32248-65

ACCESSION NR: AR5004789

a considerably higher wear resistance than fast cooled alloys. There is no change in properties from structurally free carbon as a function of cooling speed. I. Gryaznov.

SUB CODE: MM ENCL: 00

Card 2/2

L 41308-65 EWI(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b) Pad IJP(c) MJW/
ACCESSION NR: AR5004784 JD/HW/JG S/0137/64/000/010/I034/I035

SOURCE: Ref. zh. Metallurgiya, Abs. 10I228

AUTHOR: Kreymer, G. S.; Alekseyeva, N. A.; Baranov, A. I.

TITLE: Creep in metal ceramic tungsten carbide-cobalt hard alloy

CITED SOURCE: Sb. tr. Vses. n.-i. in-t tverdykh splavov, no. 5, 1964, 182-188

TOPIC TAGS: tungsten carbide alloy, cobalt containing alloy, metal ceramic material, metal creep, grain size, stress/ VK6 alloy

TRANSLATION: Creep in alloy VK6 (6% cobalt, balance tungsten carbide) during concentrated bending at a temperature of 800° was studied as a function of the tungsten carbide grain size and the stress. The samples were bars 5 x 5 x 35 mm. Creep in tungsten carbide-cobalt alloys, during the first two stages, takes place according to the same laws as for a homogeneous metal; this is evidently connected with the fact that the creep process is determined by the creep of cobalt. The values of the creep rate

Card 1/2

L 41308-65
ACCESSION NR: AR5004784

during bending of the tungsten carbide-cobalt alloy, in the stage of steady-state creep, agree with the predictions of J. Weertman's theory. The nature of the deformation-time curve in the stage of non-steady-state creep is identical during bending and under stress. 14 literature titles. N. Vorob'ev.

SUB CODE: MM ENCL: 00

Card 2/2

L 44725-65 EWP(e)/EWT(m)/EWP(w)/EPF(c)/EPF(n)-2/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b) Pf-4/Pu-4 IJP(c) JD/JG/WB

ACCESSION NR: AP5010402 UR/0226/65/000/004/0035/0043 44 42 B

AUTHOR: Kreymer, G. S.; Tumanov, V. I.; Alekseyeva, N. A.; Pavlova, Z. I.; Baskin, M. L.; Kurmetsova, K. F.

TITLE: Effect of the addition of tantalum carbide on the properties of hard powdered-metal WC-TiC-Co alloys 27 27

SOURCE: Poroshkovaya metallurgiya, no. 4, 1965, 35-43

TOPIC TAGS: hard alloy, tantalum carbide, cementing phase, titanium carbide, tungsten carbide, cobalt, bending strength, carbide crystals, brittle fracture, alloy sintering, scaling resistance

ABSTRACT: While the addition of some quantity of tantalum carbide to the hard alloys WC-TiC-Co is a widespread practice, its effect on the properties of these alloys is disputed by different investigators. To clarify this question, the authors carried out a series of tests with specimens of these alloys containing different proportions of TaC. On the basis of metallographic analysis of the melts, investigations of bending strength of specimens as a function of the molar

Card 1/3

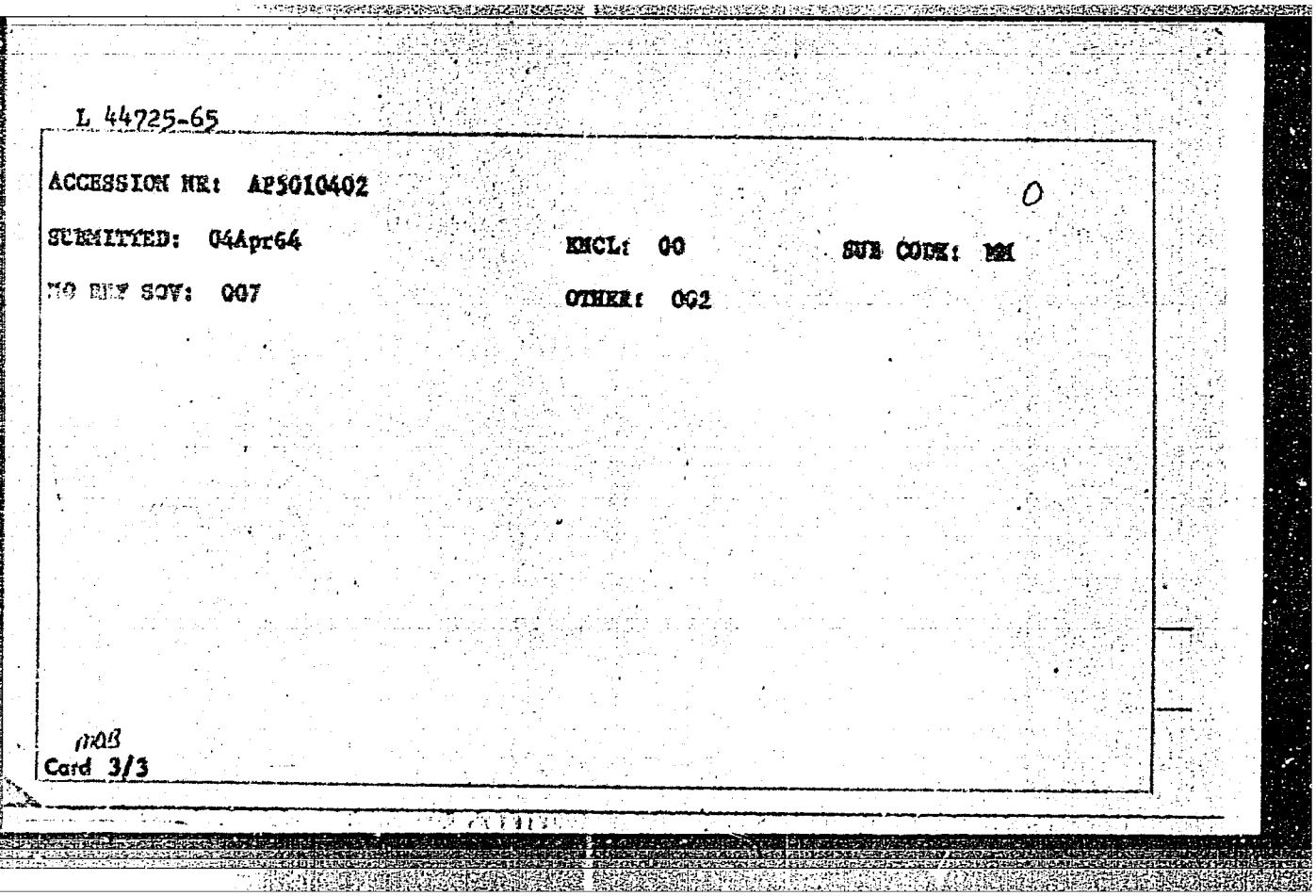
L 44725-65

ACCESSION NR: AP5010402 2

content of TaC in the solid-solution phase of (Ti, Ta, W)C, hardness tests, impact toughness tests, and other tests, the positive value of the addition of tantalum carbide to WC-TiC-Co alloys is definitely established. Such an addition increases the bending strength (at moderate temperatures), hardness (at high temperatures), heat resistance, and scaling resistance of these alloys. It is shown that in the region of brittle fracture of WC-TiC-TaC-Co alloys the relation of bending strength to the volumetric content of cobalt is satisfactorily described by the equation $\sigma^2 = AEC$, where σ is the breaking point, E is the elastic modulus, C is the cobalt content, and A is a constant. Observations under the microscope confirm that the fracturing crack spreads through the cementing phase (and phase boundaries), by-passing the carbide grains. Further, it is shown that the introduction of tantalum carbide into WC-TiC-Co alloys markedly alters the composition of the cementing phase, which in itself may be a factor in the increase in its strength and the strength of the alloys. The latter may also be enhanced by the improvement in the wettability of carbide crystals by the molten cementing phase during the sintering process. Orig. art. has: 8 figures, 7 tables.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov (All-Union Scientific Research Institute of Hard Alloys)

Card 2/3



L 44725-65

ACCESSION NR: AP5010402

SUBMITTED: 04Apr64 ENCL: 00 SUB CODE: MM

NO REF SOV: 007 OTHER: 002

mob

Card 3/3

L 62785-65 EWP(e)/EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b) Pf-4/
Pad IJP(c) JD/ID/JG

ACCESSION NR: AP5016034 UR/0226/65/000/006/0024/0031 41 37 B

AUTHOR: Kreymer, G. S.; Vakhovskaya, M. R.

TITLE: The effect of carbon on the mechanical properties of hard tungsten carbide-cobalt alloys

SOURCE: Poroshkovaya metallurgiya, no. 6, 1965, 24-31

TOPIC TAGS: powder metallurgy, mechanical property, impact strength, wear resistance, metallography, intermetallic compound

ABSTRACT: A third phase (η-phase) or free graphite is often observed in WC-Co alloys in addition to the basic structure of WC in solid solution with Co. A tentative formula, W_3Co_3C, was ascribed to the η-phase. The boundaries of the η-phase on the constitution diagram are narrow, but the stoichiometry was estimated at 5.83 to 6.0 wt%, depending on the Co content. Even small quantities of the supplementary phases were enough to influence the mechanical properties of the alloy, while sintering conditions affected the distribution and quantity of the phases. Bend strength, impact strength, and wear resistance were determined for the alloys containing 8 wt% Co, with varying carbon contents (5.13 to 6.7 wt%). The planimetric

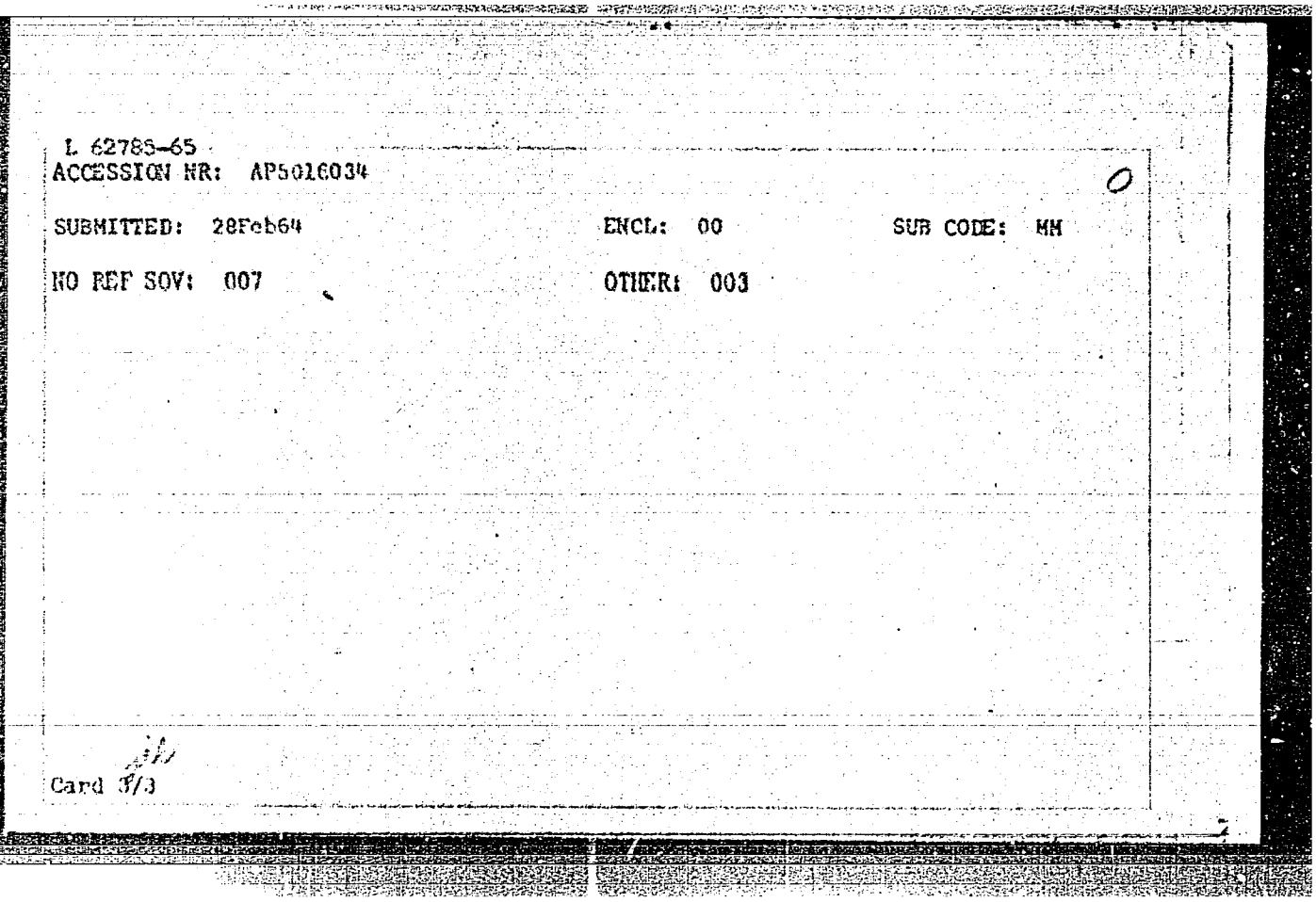
Card 1/3

L 62785-65
ACCESSION NR: AP5016034 4

method was used to determine the quantity of η-phase. The bend strength and impact strength were determined at 293, 473 and 873°K, each value representing an arithmetical average of 20 tests. At room temperature, the presence of η-phase (0 to 8% by volume) in the forms of "lakes" or dendritic "laces" greatly reduced the strength, as did the presence of graphite (0 to 3% by volume). A micrograph showed the η-phase to be located along interphase boundaries. The statistical coefficient of variation for the bend test increased sharply with phase concentration. As the test temperature increased from 293 to 873°K, the strength decreased; the more so, the higher the phase content. Studies on wear resistance of the alloys in contact with cast iron showed graphite to be much more detrimental than the η-phase. It was concluded that the best combination of properties (strength, wear resistance, and homogeneity) could be attained for two phase WC-Co alloys, containing no η-phase or graphite. Orig. art. has: 6 figures, 1 table.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov (All-Union Scientific Research Institute of Hard Alloys)

Card 2/3



L 62785-65
ACCESSION NR: AP5016034

SUBMITTED: 28Feb64 ENCL: 00 SUB CODE: MM

NO REF SOV: 007 OTHER: 003

Card 3/3

KREYMER, G.S.; TUMANOV, V.I.; ALEKSEYEVA, N.A.; PAVLOVA, Z.I.; BASKIN, M.L.; KUZNETSOVA, K.F.

Properties of ceramic metal hard alloys of WC--TiC--Co with additions of tantalum carbide. Poroshk. met. 5 no.4:35-43 '65.

(MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov.

KREYNER, G.S.; VASILOVSKAYA, M.F.

Effect of the carbon content in hard tungsten carbide-cobalt alloys on their mechanical properties. Poroshk.met. 5 no.4:24-31 Je '65. (MIRA 18:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov.

CHASHKOV, M.T., inzh.; KREYMER, I.D., inzh.

Mechanization of engineering calculations with use of industrial computing machine stations. Sudostroenie 26 no.8:58-59 Ag '60. (MIRA 13:10)

(Naval architecture--Tables, calculations, etc.)
(Calculating machines)

GUMBIN, A.A., inzh.; PETRISHCHEV, K.F., inzh.; KREYMER, I.D., inzh.

Testing of corrugated bulkheads. Sudostroenie 26 no.10:68-70 O'60. (MIRA 13:10)
(Bulkheads (Naval architecture))

GUNDOBIN, A.A., inzh.; KREYMER, I.D., inzh.

Operation of pontoon dry dock gates. Sudostroenie 28 no.4: 65-66 Ap '62. (MIRA 15:4)
(Sluice gates)

KREYMER, I.D., inzh.; CHASHKOV, M.T., inzh.

Mechanizing the calculation of statical stability on rough sea.
Sudostroenie 28 no.8:48-50 Ag '62. (MIRA 15:8)
(Stability of ships) (Punched card systems—Shipbuilding)

KHEYMER, L.P. (Dnepropetrovsk)

Treatment of ulcers by galvanization of the splanchnic nerves.
Vrach.delo no.2:195-198 F '56. (MLRA 9:7)

1. Oblastnaya bol'nitsa imeni Mechnikova
(PEPTIC ULCER) (ELECTROTHERAPEUTICS)

KREYMER, L.P. (Dnepropetrovsk)

Treatment of endarteritis obliterans by galvanic stimulation of the median nerves. Vrach. delo no.1:83 '59. (MIRA 12:3)

1. Oblastnaya klinicheskaya bol'nitsa imeni Mechnikova.
(ARTERIES--DISEASES) (ELECTROTHERAPEUTICS)

KREYNER, L.P. (Dnepropetrovsk)

Pressure asymmetry in the humeral arteries. Klin.med. 37 no.7:123-124 Jl '59. (MIRA 12:10)

1. Iz Oblastnoy bol'nitsy imeni Mechnikova (glavnyy vrach I.A.Lobanov).

(HUMERUS blood supply)

DESHKO, Yu.I.; KREYMER, M.B.; OGARKOVA, T.A.; KHOKHLOV, V.K., inzh., nauchnyy red.; CHERKINSKAYA, R.L., red. izd-va; MOCHALINA, Z.S., tekhn. red.

[Adjustments and heat-engineering tests of rotary kilns at cement plants]Naladka i teplotekhnicheskie ispytaniia vrashchaiushchikhsia pechei na tsementnykh zavodakh. Moskva, Gosstroiizdat, 1962. 242 p. (MIRA 16:1)

(Kilns, Rotary)

DESHKO, Yu.I.; KREYMER, M.B.; MAKHNOVICH, A.T.; KATRANOV, I.G., spets.red.; TABUNINA, M.A., tekhn. red.; SHERSTNEVA,N.V., tekhn. red.;TEMKINA,Ye.L., tekhn.red.
[Materials on accident prevention and industrial hygiene in the building materials industry]Sbornik materialov po tekhnike bezopasnosti i proizvodstvennoi sanitarii v promyshlennosti stroitel'nykh materialov. Moskva, Gosstroiizdat, 1962. 634 p. (MIRA 15:11)
(Building materials industry—Hygienic aspects)

DESHKO, Yuriy Ivanovich; KRYKHTIN, Georgiy Stepanovich; KREYMER, Mikhail Borisovich; PIROTSKIY, V.Z., nauchn. red.;

[Milling materials in the cement industry] Izmel'chenie materialov v tsementnoi promyshlennosti. Moskva, Stroiizdat, 1964. 273 p. (MIRA 17:10)

KOSTRIN, K.V.; KREYMER, M.L.; MALIKOV, F.Kh.; GAL'PERIN, B.M.; NAPALKOVA, S.A.

Refining sour oils in the units and plants of Bashkiria. Trudy BashNII NP no.7:19-29 '64. (MIRA 17:9)

AKIMOV, V.S.; KOSTRIN, K.V.; KREYMER, M.L.; SABADASH, Yu.S.

Rebuilding pressure vacuum distillation thermal cracking units in the Bashkir petroleum refineries. Khim. i tekh. topl. i masel 6 no.11:11-14 N '61. (MIRA 14:12)

1. Bashkirskiy nauchno-issledovatel'skiy institut po pererabotke nefti.

(Bashkiria--Petroleum refineries--Equipment and supplies)

VOL'F, M.B.; KREYMER, M.L.; KOSTRIN, K.V.; DADAYAN, G.T.

Increasing diesel fuel resources by decreasing the production of ligroine-kerosine fractions. Trudy Bash NIINP no.5:32-41 '62.
(MIRA 17:10)

AKIMOV, V.S.; ABRAMOVICH, S.Sh.; KREYMER, M.L.; YEFREMOVA, M.I.; MARKEYEVA, L.I.; FOMINA, O.I.

High-viscosity distillates as an additional resource in the production of motor oils. Trudy BashNII NP no.6:24-34 '63. (MIRA 17:5)

KREYMER, M.L.; GAZIZOV, R.Kh.; BIKRIMIROV, F.S.; KHUDAYDATOVA, L.B.; ILEMBITOVA, R.N.

Improving the quality and increasing the recovery of a 62—85°C gasoline fraction for use as a raw material for producing benzene. Trudy BashNII NP no.6:95-101 '63. (MIRA 17:5)

KREYMER, M.L.; BORZENKO, V.A.; BIKTIMIROV, F.S.; STEPANOV, N.P.

Certain data on the industrial evaluation of the efficiency of a sieve plate with a baffle arrangement. Trudy BashNII NP no.6: 217-225 '63. (MIRA 17:5)

KREYMER, M.L.

Examining a double-chamber furnace with an inclined arch.
Trudy BashNII NP no.6:240-251 '63. (MIRA 17:5)

AKIMOV, V.I., KOSTRIN, K.V.; KREYMER, M.L.; SARADASH, Yu.I.

Remodeling pressure-vacuum and thermal cracking devices.
Trudy BashNII NP no.6:271-278 '63. (MIRA 17:5)

YAKOVLEV, I.P.; KREYMER, M.M.

Catalytic synthesis of ketones. Part 6. Synthesis of methylbutyl ketone and ethylphenyl ketone. Zhur.ob.khim. 26 no.12:3312-3313 D '56. (MLRA 10:7)

(Chemistry, Organic--Synthesis) (Ketones)

AUTHOR: Kreymer, N., Candidate of Technical Sciences SOV/66-59-1-5/32

TITLE: Rotary Compressors for Refrigerating Installations (Rotatsionnyye kompressory dlya kholodil'nykh ustanovok)

PERIODICAL: Kholodil'naya tekhnika, 1959, Nr 1, pp 21-26 (USSR)

ABSTRACT: After a historical review describing the development of rotary compressors in foreign countries, such as USA, Germany and Switzerland, the author deals with the principal types of rotary compressors, viz the concentric rotor type, the eccentric rotor type and the multi-shaft type, describing the distinctive features and discussing the merits of each of them. As an example the author cites the US made compressor of the firm F.E.S. Fuller (for ammonia and Freon). The Riga Plant "Kompressor" has turned out an eccentric rotor compressor of the type RKF yielding 900 standard cal/hr. In 1958 tests were carried out in the VNIKhI with an ammonia compressor of the firm K.S.B. Similar tests were conducted at the cold storage house of the Riga docks. Comparison of the basic results of the tests with the characteristics of the reciprocating booster compressor 4BAU-19 permits to conclude that the rotary compressor holds great advantages as regards weight and dimensions in relation to capacity. In 1958 designin-

Card 1/2

Rotary Compressors for Refrigerating Installations SOV/66-59-1-5/32

of an experimental model of a rotary booster compressor has been started at VNIKhI made on the basis of the vacuum pump RBN-8 of the Sumskiy mashinostroitel'nyy zavod (Sumy Machine Building Plant). Rotary compressors of such a design should find application not only in refrigeration but also as machines for single-stage compression in air-conditioning.
There are 3 diagrams, 2 graphs, 1 table, and 7 references, 5 of which are Soviet, 1 English, and 1 German.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti (All-Union Scientific Research Institute of the Refrigeration Industry)

Card 2/2

KRE/MER

Category : USSR/Solid State Physics - Mechanical Properties of Crystals and Crystalline Compounds E-9

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6815

Author : Kreymer, E.S.
Title : Strength of Metal-Ceramic Hard Alloys of Tungsten Carbide and Cobalt.

Orig Pub : Poroshkovaye metallurgiya, Yaroslavl', 1956, 115-126

Abstract : The optimum combination of wear endurance and strength in WC-Co alloys can be obtained by two means: crumbling the grain with a relatively increased content of Co, or increasing the grain (to 3 - 4 microns) with a relatively reduced content of Co. The energies of the second method are proved. Bibliography, 27 titles.

Card : 1/1

KREYMER, S.Ye.

Potentiometric determination of iron in nickel reprocessing products. Zav.lab.21 no.7:788-790 '55. (MLRA 8:10)
(Iron--Analysis)

KHEYMER, S.Ye.; TUZHILINA, N.V.

Electrolytic method of copper determination in solutions containing large quantities of iron. Zav. lab. 23 no.5:543 '57. (MLRA 10:8)

1. Kombinat "Severonikel'."
(Copper) (Electrochemical analysis)

КРЕЙМЕР, С. Я.

AUTHORS: Kreymer, S. Ya., Butylkin, L. P. 32-2-1/60

TITLE: The Determination of Copper by Means of Lead-Diethyldithiocarbaminate (Opredeleniye medi s pomoshch'yu dietilditiokarbaminata svintsa)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 2, pp. 131-133 (USSR)

ABSTRACT: Within the electromotive series: Hg, Ag, Cu, Ni, Co, Pb, Bi, Cd, Tl^{3+}, Sb^{3+}, Zn, Mn^{2+}, Fe^{3+} each metal (in aqueous solution) displaces the subsequent from its cabaminate (dissolved in chloroform). According to R. Wickbold (reference 1) this exchange takes place especially quickly at pH-5. It was found experimentally that Ni and Co in acid solution do not displace Pb from its diethyldithiocarbaminate, while Pb is displaced by Cu also in the presence of Ni and Co. The Cu-carbaminate is yellow, while the Pb-salt is colorless, so that the Pb-carbaminate can serve as reagent for small amounts of Cu, which was already pointed out by M. Kovarik and V. Vlcek (reference 3). The present work investigates the possibility of using the Pb-carbaminate

Card 1/2

solution in chloroform as a specific Cu-reagent. The effect of pH with the addition of diluted HNO_3, ammonia, resp. was investigated and the authors found that Cu can be proved in all cases. When aqua regia is present, or in a from 10 - 15 fold diluted state, the Diethyldithiocarbaminate-colour does not show up or disappears soon. In the investigation of the character of the exchange reaction it was found that probably also a small part of the reagent is water soluble and thus a difference between the results of investigations and those of calculation occur. The investigations of the effect of impurities showed that in the analyses of the materials listed in the table results were obtained which coincide with those obtained from other methods. There are 1 figure, 2 tables, and 3 references.

ASSOCIATION: "Severonikel'" Combine (Kombinat "Severonikel'")

AVAILABLE: Library of Congress

Card 2/2

1. Copper-Determination 2. Lead-Diethyldithiocarbaminate-Applications

AUTHORS: Kreymer, S.Ye., Tuzhilina, N.V., Golovina, V.A., Tyabina, R.A. 32-3-2/52

TITLE: The Determination of Cobalt and Cadmium in Nickel of High Purity (Opredeleniye kobal'ta i kadmiya v nikele vysokoy chistoty)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 3, pp. 262-264 (USSR)

ABSTRACT: This method of determining cobalt is based upon a suggestion made by V.P. Zhivopistsev [Refs.1,2], according to which cobalt together with diantipyryl-methane and ammonium thiocyanate gives a light blue precipitation which is soluble in concentrated ammonia. From the precipitation the cobalt is colorimetrized with nitroso-R-salt. Precipitation is carried out in the medium of sulfuric acid, the deposit is distinctly soluble in hot water, and must be washed with a 1% ammonium thiocyanate solution. The process of analysis and the results obtained when determining cobalt (0.000?% Co) are given. Determination of cadmium is carried out by a modified method, also developed by Zhivopistsev [Ref.4], by precipitation with diantipyryl-methane in the presence of bromide- or iodide ions. In this way it is possible to determine up to

Card 1/2

The Determination of Cobalt and Cadmium in Nickel of High Purity

32-3-2/52

0.0001 - 0.01% cadmium in nickel, potassium iodide being used in the case of low percentages, because it forms complexes which are not so easily soluble. If copper is present, it must be removed by precipitation with thiosulfate; after combustion of organic substances cadmium is determined polarographically. An exact process of analysis as well as a table of results obtained by the suggested and by two other methods is given. There are 2 tables, and 5 references, 4 of which are Slavic.

ASSOCIATION: "Severonikel'" Combine (Kombinat "Severonikel'")

AVAILABLE: Library of Congress

1. Nickel-Cobalt-Determination 2. Nickel-Cadmium-Determination

Card 2/2

5(2) SOV/32-25-6-7/53

AUTHORS: Kreymer, S. Ye., Butylkin, L. P.

TITLE: Extraction Determination of Iron and Cobalt in Pure Nickel (Ekstraktsionnoye opredeleniye zheleza i kobal'ta v chistom nikele)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 6, pp 662 - 666 (USSR)

ABSTRACT: Diantipyrylmethane (I) forms difficultly soluble compounds with the thiocyanates of Fe, Co, Cu and other metals, whereas no precipite is caused with nickel. This is the principle on which the method (Ref 1) of the nickel separation from a number of impurities is based. Cobalt may be determined in the concentrate of the impurities (Ref 2). The (I)-salts of Fe, Co and other metals are well soluble in chloroform and may be determined by colorimetry because of their intense coloring (Refs 3,4). In the case under review it was found that iron- and cobalt salts of (I) decompose in a treatment with weakly acid aqueous solutions, with cobalt and iron passing completely to the water phase, while the strongly acid solutions do not lead to any variation of this kind (Fig 1, function of the extraction degree of the pH). A treatment of the cobalt

Card 1/2

salt of (I) with a buffer solution leads to the decomposition of the salt and to the passage of cobalt thiocyanate into the water phase, where cobalt may be determined with nitroso-R-salt by colorimetry. Iron (III) with (I) and ammonium thiocyanate forms a red compound soluble in chloroform. From the chloroform solution (as is the case with cobalt) the metal may be extracted with an acetate buffer solution (pH= 5.37). In the case under review iron was determined colorimetrically with orthophenanthroline (II), the disturbing coloring of cobalt with (II) being removed by nitric acid. The investigation results of the checking and comparison analyses of the cobalt and iron determinations under review and both analytic courses are specified (Tables 1,2). There are 4 figures, 2 tables and 6 Soviet references.

ASSOCIATION: Kombinat "Severonikel'" (Kombinat "Severonikel'")

S/075/60/015/004/018/030/XX
B020/B064

AUTHORS: Kreymer, S. Ye., Butylkin, L. P., and Stogova, A. V.

TITLE: Photometric Determination of Palladium in the Products of Nickel Production

PERIODICAL: Zhurnal analiticheskoy khimii, 1960, Vol. 15, No. 4, pp. 467 - 471

TEXT: It has previously (Ref. 3) been shown that when an antipyrine solution and an excessive KI solution are added to a $PdCl_2$ solution, a complex is formed that can be extracted with chloroform. By measuring the optical density of the resulting extract at 340 mμ, it is possible to determine 1 - 20 γ Pd. The authors' experiments showed that similar results are obtained if, instead of antipyrine, a solution of diantipyryl methane is added to dissolve the palladium iodide complex. The compound $(C_{23}H_{24}O_2N_4)_2 \cdot H_2[PdI_4]$ is likely to be thus formed. The solutions of the compound of palladium with iodide and diantipyryl methane in chloroform are cherry-red, and obey the Beer law (Fig. 1). With the device

Card 1/3

Photometric Determination of Palladium in the Products of Nickel Production

S/075/60/015/004/018/030/XX
B020/B064

ФЭК-М (FEK-M) it is possible to determine more than 0.48 γ Pd/ml in a 10 mm thick layer of the solution by means of a blue light filter. The absorption maximum of the solution is found at 450 μ. The colored compound of palladium with iodide and diantipyryl methane must be obtained in a hydrochloric acid solution in the absence of oxidizing agents, since otherwise elementary iodine is set free. A reversible reaction takes place between the palladium dimethyl glyoximate solution in chloroform and the aqueous solutions of diantipyryl methane and KI, by which a compound of Pd with iodine and diantipyryl methane is formed in the chloroform layer, while dimethyl glyoxime passes over into the aqueous layer. Table 1 shows the results of experiments made to separate palladium in the presence of various metals, by extracting palladium dimethyl glyoximate with chloroform. They confirm the data published in Ref. 4 on the separation of palladium from Ni, Cu, Co, Fe, Pt, and Au in this way. The photometric determination of palladium may also be carried out with the nitroso R-salt. When heated with nitroso R-salt, palladium chloride forms a compound of an intense red color. The accuracy of palladium determination is 0.30 μg when the device ФЭК-М (FEK-M) is used with a green light filter and a bulb 10 mm thick. The Beer law holds for the solutions (Fig. 2). The

Card 2/3

Photometric Determination of Palladium in the Products of Nickel Production

S/075/60/015/004/018/030/XX
B020/B064

nitroso R-salt was used by the authors to determine palladium after the separation of the accompanying metals in the products of nickel production (Table 2). Methods of determining 0.01 - 0.05% Pd in residues containing up to 45% Ni, up to 20% Cu, and up to 5% Fe, and of determining less than 0.01% Pd in products containing larger amounts of iron are given. The photometric determination of Pd with nitroso R-salt is also described. There are 2 figures, 2 tables, and 6 references: 5 Soviet and 1 Japanese.

ASSOCIATION: Kombinat Severonikel'

SUBMITTED: August 4, 1958

Card 3/3

KREYMER, S.Ye.; STOGOVA, A.V.; LOMEKHOV, A.S.

Extractive determination of iron with ethyl acetocetate. Zav.lab 26 no.10:1104-1106 '60. (MIRA 13:10)

1. Kombinat "Severonikel'".
(Iron--Analysis) (Acetoacetic acid)

KREYMER, S. Ye.; TUZHILINA, N.V.; GAYEVA, L.M.; LOMEKHOV, A.S.

Use of fatty acids of the C_{7} - C_{9} fraction for the seperation of the iron and copper from cobalt. Zhur.anal.khim. 16 no.3:303-307 My-Je '61. (MIRA 14:6)

1. Kombinat "Severonikel'," Monchegorsk.
(Cobalt--Analysis)
(Iron)
(Copper)
(Acids, Fatty)

KREYMER, S.Ye.; STOGOVA, A.V.; LOMEKHOV, A.S.

Consecutive extractive separation and determination of copper, iron, and cobalt in electrolytic nickel. Zav. lab. 27 no. 4:386-387 '61. (MIRA 14:4)

1. Kombinat "Severonikel'".
(Copper—Analysis) (Iron—Analysis) (Cobalt—Analysis) (Nickel—Analysis)

S/136/62/000/003/001/008
E021/E435

AUTHORS: Milovanova, I.B., Kreymer, S.Ye., Rozov, V.N.

TITLE: Extraction method of purifying a nickel electrolyte from impurities

PERIODICAL: Tsvetnyye metally, no.3, 1962, 38-42

TEXT: The possibility of changing the existing methods of purifying nickel electrolyte from iron and copper to an extraction method was investigated. The conditions were worked out in the laboratory using the salts of fatty acids of fractions C_{10}-C_{13} as an extracting reagent. These are practically insoluble in the electrolyte and regenerated to take part in the reaction many times. The method was then proved on large-scale tests. The preparation of a nickel soap is a simple operation consisting of loading into a reaction chamber fatty acids, nickel solution and soda solution. The mixture is heated to 65 - 70°C and mixed for 20 to 30 minutes. Stratification is allowed to take place at the same temperature for 20 to 30 minutes. Soaps with different nickel concentrations can be prepared; in the present experiments the nickel concentration was 25 to 30 g/l and the solution had a

Extraction method of purifying ...

viscosity of 4 to 9 centipoise at 60°C. Extraction purification was tried on an anolyte of the following composition: 60 to 65 g/l Ni, 0.2 to 0.3 g/l Co, 0.4 to 0.5 g/l Fe, 0.5 to 0.6 g/l Cu, 150 to 160 g/l SO_4'', 40 to 45 g/l Cl'; pH 2.2 to 2.5. The iron was in the divalent form and 50% of the copper in the monovalent form. The soap was added to the electrolyte solution with a 10:1 ratio aqueous:organic. The purification from Cu and Fe took place in 3 to 5 stages. The solutions were mixed for 30 to 40 minutes and then transferred to a separating funnel where stratification took place. The aqueous solution was poured back into the reaction chamber and a further quantity of soap added. A study of the kinetics of the reaction showed that the iron was removed to a trace in 10 minutes. Preliminary oxidation of the copper intensified its extraction. The copper was also more efficiently extracted with soaps containing higher concentrations of nickel. After purification, the anolyte contained 0.003 g/l copper. After the usual chlorine purification from cobalt the solution contained 60 to 65 g/l Ni, 0.02 to 0.005 g/l Co, 0.003 to 0.001 g/l Cu.

Electrolysis was then carried out using a soluble nickel anode and a steel matrix for the cathode. The current density was 220 A/m^2, the temperature 62 $\pm$ 2°C; the process was carried out for 10 hours. The resulting nickel was analysed and came within the specification for nickel type H-1 (N-1).
There are 8 figures and 1 table.

Card 3/3

KREYMER, S.Ye.; TUZHILINA, N.V.; GAYEVA, L.M.; LOMEKHOV, A.S.

Extraction separation of iron by a mixture of fatty acids of the C_7 - C_9 fraction. Zav.lab. 28 no.3:266-268 '62. (MIRA 15:4)

1. Kombinat "Severonikel'".
(Iron) (Acids, Fatty)

MILOVANOVA, I.B.; KREYMER, S.Ye.; ROZOV, V.N.

Extractive method of purifying a nickel electrolyte from impurities. TSvet. met. 35 no.3:38-42 Mr '62. (MIRA 15:4)
(Nickel--Electrometallurgy) (Electrolytes)

KREYMER, S.Ye.; LOMEKHOV, A.S.; STOGOVA, A.V.

Determination of silver by means of copper diethyldithiocarbamate. Zhur.anal.khim. 17 no.6:674-677 S '62.
(MIRA 16:1)

1. Severnyy nikelevyy kombinat, Monchegorsk.
(Silver—Analysis) (Carbamic acid)

KREYMER, S.Ye.; LOMEKHOV, A.S.

Kinetics of copper extraction with a solution of lead diethyldithiocarbamate. Zhur. anal. khim. 18 no.5:567-569 My'63. (MIRA 17:2)

1. Kombinat "Severonikel'", Monchegorsk.

KREYMER, S.Ye.; TUZHILINA, N.V.; LOMEKHOV, A.S.

Use of C_7 - C_9 fatty acids for separating iron and copper from nickel. Zhur. anal. khim. 18 no.9:1080-1082 S '63. (MIRA 16:11)

1. "Severonickel" Combine, Monchegorsk.

KREYMER, S.Ye.; MIKHAYLOV, P.M.; STOGOVA, A.V.; LOMEKHOV, A.S.

Chemico-spectral method of analysis of pure nickel and cobalt. Zhur. anal.khim. 19 no.9:1117-1121 '64. (MIRA 17:10)

1. "Severonickel" Combine, Monchegorsk.

MAKSIMOV, V.A., inzh.; ORLOV, V.G., inzh.; KOSTYLEV, A.D., kand. tekhn. nauk; GURKOV, K.S., kand. tekhn. nauk; KREYMER, V.I., inzh.; BELAN, N.A., inzh.

Testing the BPM-1 boring and loading machine at the Sarany chromite mine. Shakht. stroi. 8 no.5:17-21 My'64 (MIRA 17:7)

1. Aleksandrovskiy mashinostroitel'nyy zavod (for Maksimov). 2. Saranovskiy khromitovyy rudnik Zapadno-Ural'skogo soveta narodnogo khozyaystva (for Orlov). 3. Institut gornogo dela Sibirskogo otdeleniya AN SSSR (for Kostylev, Gurkov, Kreymer). 4. Kuznetskiy nauchno-issledovatel'skiy ugol'nyy institut (for Belan).

MAKSIMOV, V.A., inzh.; ORLOV, V.G., gornyy inzh.; KOSTYLEV, A.D., kand. tekhn. nauk; GURKOV, K.S., kand. tekhn. nauk; KREYMER, V.I., inzh.; BELAN, N.A., inzh.; PONOMARENKO, Yu.F., kand. tekhn. nauk

Industrial testing of the BPM-1 boring and loading machine. Ugol' 40 no.2:43-46 F '65. (MIRA 18:4)

1. Aleksandrovskiy mashinostroitel'nyy zavod (for Maksimov). 2. Saranovskiy khromitovyy rudnik Zapadno-Ural'skogo soveta narodnogo khozyaystva (for Orlov). 3. Institut gornogo dela Sibirskogo otdeleniya AN SSSR (for Kostylev, Gurkov, Kreymer). 4. Kuznetskiy nauchno-issledovatel'skiy ugol'nyy institut (for Belan). 5. Institut gornogo dela imeni A.A.Skochinskogo (for Ponomarenko).

KREYMER, Yu.G., inzh.; LITVINENKO, V.N., inzh.

Measuring the length of hot pipes in rolling. Mekh. i avtom. proizv. 19 no.8:27-28 Ag '65. (MIRA 18:9)

KHEYMERMAN, A., inzh.; AGEYEVA, T., inzh.

Movable units for loading grain into railroad cars. Muk.-elev. prom. 26 no.10:16-18 O'60. (MIRA 13:10)

1. Vsesoyuznyy trest Spetselevatormel'stroy.
(Grain-handling machinery) (Loading and unloading)

PERESADA, Vladimir Sergeyevich; KREYMERMAN, Abram Moshkovich; PROKHOROV, Aleksandr Mikhaylovich; SOKOLOV, I.A., polkovnik, red.; SLEPTSOVA, Ye.N., tekhn. red.

[Electronics in the service of artillery fire control] Elektronika na sluzhbe upravleniia ognem artillerii. Moskva, Voenizdat, 1963. 74 p. (MIRA 16:10)
(Electronics in military engineering)
(Fire control (Gunnery))

KREYMERMAN, G. I.

Kreymerman, G. I. - "Individual electrical supply of machines in the VNIIZ experimental mill", signed by: T. (sic) I. Kreymerman, Trudy Vsesoyuz. nauch.-issled. in-ta zerna i produktov ego pererabotki, Issue 18, 1949, p. 62-75.

SO: U-4110, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 17, 1949).

LEVACHEV, N.A., dotsent, kandidat tekhnicheskikh nauk; KREYMERMAN, G.I., kandidat tekhnicheskikh nauk, redaktor.

[Automatic feeders in elevators and warehouses] Samopodavateli v elevatorno-skladskom khoziaistve. Pod red. G.I.Kreimermana. Moskva, Gos. izd-vo tekhn. i ekon. lit-ry po voprosam zagotovok, 1953. 95 p. (MLRA 7:1)
(Conveying machinery) (Grain--Storage)

GURVICH, B., inzhener; KREYMERMAN, G., inzhener.

Production of various grade flours in small flour mills.
Muk.-elev.prom. 20 no.3:13-15 Mr '54. (MLRA 7:7)
(Flour mills)

KREYMERMAN, G., kandidat tekhnicheskikh nauk.

Cleaning grain when it is delivered. Muk.-elev.prom. 20 no.6: 7-9 Je '54. (MLRA 7:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov ego pererabotki.
(Grain--Cleaning)

KREYMERMAN, G., kandidat tekhnicheskikh nauk; VOLOSHIN, V., inzhener.

New machinery for storage points. Muk.-elev.prom. 20 no.8:5-7 Ag '54.
(Grain handling) (MLRA 7:9)

KREIMERMAN, G., kandidat tekhnicheskikh nauk; FREYDBERG, S., inzhener.

Allowable speed of working parts of grain handling machinery.
Muk.-elev.prom. 20 no.10:9-10 O '54. (MLRA 7:12)
(Grain handling machinery)

DANILIN, A., kandidat tekhnicheskikh nauk; KREYMERMAN, G., kandidat tekhnicheskikh nauk.

In building grain elevators take local conditions into consideration. Muk.-elev.prom. 21 no.11:5-6 N '55. (MLRA 9:4)
(Grain elevators)

KREYMERMAN, G., kandidat tekhnicheskikh nauk.

Calculating the number of truck scales necessary in grain procurement stations. Muk.-elev.prom.22 no.5:9-11 My '56. (MLRA 9:9)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov ego pererabotki.
(Grain elevators) (Scales (Weighing instruments))

DELIDOVICH, V., kandidat tekhnicheskikh nauk; KREYMERMAN, G., kandidat tekhnicheskikh nauk.

Technology of processing and storing headed grain varieties in grain procurement stations of the East. Muk.-elev.prom.22 no.6:3-6 Je '56. (MLRA 9:9)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov ego pererabotki.
(Soviet Far East--Grain elevators)

DELIDOVICH, V., kandidat tekhnicheskikh nauk; KREYMERMAN, G., kandidat tekhnicheskikh nauk.

Technology of grain processing and storage at procurement points of southern districts. Muk.-elev.prom.22 no.7:5-8 Jl '56. (MLRA 9:9)
(Grain--Storage) (Grain elevators)

KREYMERMAN, G., kandidat tekhnicheskikh nauk; TARTAKOVSKIY, B., inzhener.

Studying the performance of corn shellers of various design. Muk. -elev.prom 22 no.11:11-14 N '56. (MLRA 10:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov yego pererabotki (for Kreymerman). 2. Ukrglavzerno Ministerstva khlebaproduktov USSR. (for Tartakovskiy).
(Threshing machines) (Corn (Maize))

KREYNGERMAN, G., kand. tekhn. nauk.

Using self-propelled loading machines for moving grain. Muk.-elev. prom. 23 no.10:5-8 O '57. (MIRA 11:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov yego pererabotki.

(Loading and unloading) (Grain-handling machinery)

КРУЛОВ, А.

KRULOV, A., kand.tekhn.nauk; KREYMERMAN, G., kand.tekhn.nauk

Low-capacity pneumatic grain-handling equipment. Muk.-elev.prom. 24 no.2:10-13 F '58. (MIRA 11:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov yego pererabotki.
(Pneumatic-tube transportation)

KRUSHERMAN, G.I.

DELIDOVICH, V.N.; KRUSHERMAN, G.I.; MAMBISH, I.Yo.; TARUTIN, P.P.

Review of V.F. Bublii and V.A. Pylin's book "Storage and processing of grain in the manufacture of alcohol." Spirt. prom. 24 no.2:37-39 '58. (MIRA 11:3)

(Grain) (Bublii, V.F.) (Pylin, V.A.)

KREYMERMAN, G., kand.tekhn.nauk

Line of machinery for receiving and processing grain in eastern areas. Muk.-elev. prom. 24 no.8:5-9 Ag '58. (MIRA 11:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov yego pererabotki.
(Grain-handling machinery)

KREYMERMAN, G., kand.tekhn.nauk; INGERMAN, M., inzh.

Shelling corn at grain procurement points. Muk.-elev. prom. 24 no.9:6-10 S '58. (MIRA 11:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov yego pererabotki.

(Corn (Maize))

BERNSHTEYN, M.L., dotsent, kand.tekhn.nauk; ZIMMERMAN, G.I., insh.

Effect of texture on the mechanical properties of KhN60 nickel-chromium-iron alloys. Sbor.Inst.stali no.39: 345-361 '60. (MIRA 13:7)

1. Kafedra metallovedeniya i termicheskoy obrabotki Moskovskogo ordena Trudovogo Krasnogo Znameni instituta stali im. I.V. Stalina.

(Nickel-chromium-iron alloys--Cold working)